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USSR Report

AGRICULTURE

No. 1322



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LIVESTOCK FEED PROCUREMENT

MEASURES FOR IMPROVING NONCHERNOZEM ZONE FODDER GRASS CULTIVATION

Moscow ZEMLEDELIYE in Russian No 1, Jan 82 pp 34-36

/Article by L. P. Sin'kovskiy, doctor of agricultural sciences, and S. I. Dmitriyeva, candidate of biological sciences, All-Union Scientific Research Institute of Fodder: "Increase in Productivity of Fodder Land"

/Text Field and meadow fodder production is the basic source of feed in the non-chernozem zone. Natural fodder land represents the basic potential for an expansion of fodder production in the zone and, consequently, an increase in the production of livestock products. However, at the present state this land is unproductive. In 1979 in the North-Western Region the average yield of hayfields totaled 9.9 quintals per hectare, in the Central Region, 9.4, in the Volgo-Vyatka Region, 9.5 and in the Ural Region, 7.7 and of pastures, no more than 500 to 700 fodder units per hectare. Such a low yield is due to the unsatisfactory reclamation state and lack of elementary measures for the care of land and its utilization. Sizable areas--2.9 million hectares--are overgrown with shrubs and low forests, 1.8 million hectares are marsh-ridden, 1.8 million hectares are subject to wind erosion, more than 50,000 hectares have eroded soil and 4.6 million hectares, acid soil, and 204,000 hectares are covered with stones (more than one-half have a pH of 4.5 to 5.0).

Natural hayfields and pastures in the zone are highly diverse in their nature. Dry valley fodder land--11.4 million hectares, including 4.0 million hectares of clean land--are most widespread. This is basically normal and temporarily excess moisture land, as well as steep slope land. The average yield of meadows is about 7 quintals of hay per hectare. Most dry valley land needs to be improved fundamentally, because in this zone soil is often acid and poor in humus and in basic plant food elements. A considerable part of the dry valley land with soddy-podzolic heavy loam and clay soil is water-logged in spring. Therefore, the elimination of its temporary water-logging is one of the important tasks. In the zone there are 825,000 hectares of low-lying fodder land and its yield is about 15 quintals per hectare. This land is sufficiently provided with moisture, but its soil has a low degree of fertility. Owing to the degeneration of the grass stand, this land needs to be improved fundamentally and fertilized.

There are 2.4 million hectares of floodplain hayfields and pastures, of which 1 million hectares are most valuable. Part of them--236,000 hectares--are overgrown with shrubs and covered with hillocks. The yield of floodplain hayfields is about 20 quintals per hectare.

Owing to natural conditions floodplain represents natural fodder land most stable in its yield. At the same time, this is also the most vulnerable landscape. Therefore, when developing it, it is first of all necessary to determine the possibility of improving it through the use of superficial methods. An allocation of primarily short-term floodplain meadows for pastures in floodplain is recommended.

It should be kept in mind that average-term floodplain meadows mostly require a superficial improvement and amelioration measures (destruction of weedy plants and hillocks, application of fertilizers and so forth). Reclamation measures and a fundamental improvement should be carried out on long-term floodplain meadows.

Swampy fodder land has an area of 1.3 million hectares. In a number of cases its soil is potentially highly fertile. However, its physical properties are extremely unfavorable. Cultivated hayfields and pastures should be established at the place of swampy meadows after their drainage. At the same time, drainage should be carried out with due regard for the degree of swampiness, preventing an excessive drop in the level of ground water.

In the nonchernozem zone the area of natural fodder land requiring a superficial improvement totals 1.1 million hectares and 8.7 million hectares are subject to a fundamental improvement. There is every condition for the development of cultivated meadow farming. With the appropriate measures the overwhelming majority of fodder land can be fully utilized for the cultivation of perennial meadow grass. Grass cultivation is not only a historically formed type of management, but a very promising type of agricultural production of the future as well. As a consequence, the zone should become a region of highly profitable meat and dairy farming.

To engage in meadow fodder production on a scientific basis means to be able to foresee the results of the implemented measures not only for the very near future, but for a long-term period as well.

The famous German meadow scientist E. Klapp points out that successful management of meadow farming requires more observations, understanding of the nature of the grass stand and alertness than agriculture. This is due to the fact that meadow grass stands are complex plant communities-phytocenoses with phytocenotic patterns of development peculiar to them, which are not observed or are manifested to a weak degree on areas sown with field crops.

It is appropriate to recall that the region's fodder land is located basically in a forest zone, in which the forest is the native biogeocenosis developing according to its natural laws. Forest clearing disturbs the ecological balance of the forest community and changes the regime of mineral nutrition, the water regime and so forth. These disturbances should be compensated with a constant application of the necessary amount of organic and mineral fertilizers, control of the water regime, correct care and utilization of meadow grass stands and so forth.

Nonobservance of these conditions, for example, irregular hay mowing, leads to the fact that reforestation processes begin to develop on such land. Overgrowth with bushes, formation of low forests and change in the hydrological regime--these are only different stages in the restoration of forest communities developing on poorly managed and inefficiently used natural or sown fodder land.

That is why it is necessary to overcome the psychological barrier on farms, that is, the tendency to consider natural fodder land a gift of nature--to obtain fodder from it and to give it nothing in return. Meanwhile, natural meadows require the same regular care and correct use as sown (cultivated) hayfields and pastures.

With the organization of industrial animal husbandry complexes meadow grass has acquired more universal significance--it is used for the preparation of various types of feed (hay, haylage, silage, grass meal, granulated feed and so forth). On such farms there are favorable conditions for the introduction of specialized fodder crop rotations with short-term pastures and emergency fields with perennial grass.

As we see it, the problem of "grazing or mowing" should be solved with due regard for the natural-climatic characteristics and economic conditions of a specific region. At the same time, there is no doubt that in the direction from the north to the south grass should be utilized to an ever greater extent for grazing, not in the form of green fodder delivered to the feeder.

The need for the maximum use of meadow grass stands for grazing is dictated not only by the favorable effect of the pasture content on the productivity and health of animals, as well as on their reproductive functions, but by economic considerations as well. With abundant nitrogen fertilization and a high water provision of the grass stand, especially under irrigation, the content of water in plants sometimes reaches 90 percent. Therefore, when such fodder is transported to feeders, there are 9 tons of water per ton of dry substance. Furthermore, in bad weather there are difficulties with the mowing and transportation of green fodder to feeders. Finally, the problem of removal of manure from farms should also be taken into consideration.

All these circumstances should be kept in mind when solving the problem of predominance of a specific method of keeping animals.

Let us dwell on the most important measures aimed at increasing the fodder productivity of natural hayfields and pastures in the nonchernozem zone.

Overall large-scale geobotanical land inspection for the purpose of specifying the areas and reclamation state of land and uncovering the potentials for its further development for cultivated hayfields and pastures. It is necessary primarily for a geobotanical substantiation of measures for a rational utilization and improvement of natural fodder land and mandatory for the development of regional classifications, evaluation (qualitative and economic) of fodder land as a special category of land, liquidation of small contours, elimination of the unsatisfactory configuration of plots and land transformation.

An underestimate of the importance of geobotanical inspections of land, including fodder areas, in regions of their extensive reclamation is a deep error. Here they are even more necessary than on plots not subject to reclamation and plowing. Errors in land development carried out without the proper geobotanical basis cost the state a great deal, because the effectiveness of reclamation is lowered.

Excessive drainage of land, disturbance of the shallow soddy soil layer and destruction of meadow grass stands in a satisfactory state lead to the fact that sown hayfields and pastures produce on reclaimed land harvests differing little from those obtained before their plowing and sometimes even lower.

For example, the extensive drainage operations performed in the Oka floodplain in Lukhovitskiy Rayon, Moscow Oblast, without a two-way control of the water regime led to the overdrying of meadows. Valuable fodder grass--meadow foxtail and reed grass--dropped out from the grass stand of the floodplain. The yield of pastures decreased to 80 or 100 quintals of green fodder per hectare.

Liming of most of the soil occupied by meadow grass stands. According to the data of agrochemical inspections, 77 percent of the 52 million hectares of the region's agricultural land have high acidity. The liming of acid soil activates the process of transition of potential soil fertility to effective fertility and raises the coefficient of utilization of applied fertilizers. In the experiments of the All-Union Scientific Research Institute of Fodder the increase from the application of lime in the dose of 9 tons per hectare comprised 19 percent, 4.5 tons of lime and $P_{30}K_{60}$ per hectare, 29.3 percent and 9 tons of lime and $P_{30}K_{60}$ per hectare, 36.1 percent. The increase in the harvest per kg of the active substance of phosphorus-potassium fertilizers totaled 3.4 kg of dry fodder grass and with liming, almost three times as much.

Application of mineral and organic fertilizers in the norms and doses recommended by scientific research institutions. According to the data of the All-Union Scientific Research Institute of Fertilizers and Soil Science, about 70 percent of the arable land is characterized by a low and very low content of phosphorus and 73 percent of the agricultural land has a high and average content of exchange potassium. Therefore, an annual allocation of mineral fertilizers for a specific purpose--improvement of meadows--should become mandatory on farms in the nonchernozem zone.

The role of organic fertilizers (manure, compost and green fertilizer) is especially important here. Low-humus soil (soddy-podzolic and so forth) should be fertilized with them regularly (once in 3 or 4 years with a norm of no less than 10 tons per hectare).

Every farm should develop an agrochemical complex, whose implementation will increase soil fertility and ensure at least a double increase in the yield of the natural meadow.

Creation of a favorable water regime of soil through drainage reclamation, including with a two-way control of the moisture regime, and sprinkler irrigation.

Rational utilization of natural fodder land: prompt mowing of grass in hayfields; strip-plot grazing with due regard for pasture capacities with strict observance of the recommended periods.

When determining the order of land development for cultivated hayfields and pastures, preference should be given to the projects that will ensure the maximum yield with the minimum expenditures of funds.

Therefore, floodplain meadows should be top-priority reclamation projects. As a result of an annual flooding with high water and fertile silt deposition these meadows are natural fodder areas most stable in yield. Their stability is determined not only by the favorable water and food regime of floodplains, but by the ability of meadow phytocenoses to quickly reorganize themselves depending on the changing environmental conditions.

The ecological relations of floodplain meadows were developed through centuries, owing to which floodplain phytocenoses combine stability with a dynamic nature. They are classic meadows with the most valuable grass selected in the process of their development. The basic measures for their improvement should be directed toward a regular application of the necessary doses of mineral fertilizers, weed destruction and improvement in the amelioration state of land.

Experiments have established that with systematic fertilization, especially with nitrogen, the yield of floodplain meadows increases 1.5-2-fold. At the Dedinovskaya Floodplain Meadow Farming Station, with an application of up to 180 kg of the active substance of nitrogen fertilizers per hectare, the increases in the hay harvest reached 50 kg per hectare. On the average, in 7 years the Bulatnikovo Sovkhoz in Vladimirskaya Oblast obtained 45.9 quintals of hay per hectare on floodplain meadows improved by the superficial method. On many Oka farms in Lukhovitskiy Rayon, Moscow Oblast, when properly used, pastures developed through an improvement in the natural grass stand of the floodplain meadow yield 6,000 to 8,000 fodder units per hectare.

Thus, the measures for a superficial improvement of the natural grass stand of the floodplain meadow should be the main ones. Only when the state of the grass stand is unsatisfactory is it possible to resort to a fundamental improvement with the plowing and establishment of cultivated fodder land.

Dry valley meadows occupy two-thirds of the area of fodder land. Clean meadows comprise no more than one-half (4 million hectares) and the rest need reclamation. All the meadows of this category developed on forest cleared land and their soil is poor in nutrients.

It is necessary to clear these meadows of forests and shrubs, to regularly apply mineral and organic fertilizers and in the absence of stable soil moisture to organize sprinkler irrigation.

The data on geographic experiments with fertilizers show that their application on natural meadows produces hay harvest increases of up to 15 quintals per hectare and more. Some farms, for example, the Udarnik Sovkhoz and the Bogatishchevskiy Sovkhoz in Smolenskaya Oblast, the Kudinovovo Sovkhoz and the Sovkhoz imeni Chapayev in Moscow Oblast and so forth obtain 60 to 70 quintals of hay per hectare from improved natural hayfields. The expenditures on improvement are recovered within 2 to 3 years. The production cost of 1 quintal of hay from this land is no more than 3 rubles.

Observance of rules of a rational utilization of pastures is one of the important, accessible and mandatory measures. An optimum load of livestock, observance of the periods of the beginning and end of grazing, introduction of pasture and hayfield rotations and creep and strip grazing are its basic elements.

Cultivated areas at the place of swampy hayfields and pastures are established after their drainage. Drainage measures must be implemented with due regard for the degree of swampiness, preventing an excessive drop in the level of ground water, because this leads to the overdrying of soil. In a number of cases it is necessary to establish a two-way control of the water regime.

Experience shows the high efficiency of development of swampy land. For example, the Semenovskoye Sovkhoz, Moscow Oblast, with the application of mineral fertilizers in the norm of $N_{120}P_{60}K_{90}$ obtains 80 to 90 quintals of hay per hectare on swampy low-productivity meadows after their drainage and improvement.

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REGIONAL DEVELOPMENT

ESTONIAN HORTICULTURE MINISTER PROMOTES TRUCK GARDENING

Tallinn RAHVA HAAL in Estonian 12 Jan 82 p 2

[Article by Harald Mannik, ESSR Horticulture Minister: "Taking the Consumer's Wishes Into Account"]

[Text] The consumer in a developed socialist society is a demanding one. He desires ever better and more varied products. Those growing fruits and vegetables take this into account.

Garden products are easily spoiled, so that their transport and storage is quite complicated. Unfortunately, there are often deviations from techniques that result in losses of garden products and dissatisfaction among the consumers.

At the 26th CPSU Congress Comrade L.I. Brezhnev stated that during the past 5-year period the average consumption of fruit and vegetables per person increased considerably more slowly than their production. Losses are the cause for this. Consequently, in striving to increase the quantity of garden products their transportation, storage and processing must also be improved. This is the task of the ESSR Horticulture Ministry.

Fruits and vegetables play an important part in healthy nutrition, especially so in our republic where there is often a lack of vitamins. The rest of our diet is rich in fats, protein, as well as processed foods. With this in mind, each person should consume about 120 kilograms of vegetables per year. Of this quantity it is efficient to buy 20 kilograms from southern fraternal republics, or to import it. Last year almost 30,000 tons of fruits and vegetables were brought into our republic.

Our total vegetable yield has up to now been quite unstable. In good years it has exceeded 140,000 tons. In the difficult year of 1981 the vegetable production plan was met primarily thanks to the fact that in the specialized Horticulture Ministry sovkhoses the growing area for vegetables was increased considerably over preliminary plans.

In order to supply the consumers throughout the year with fresh, especially with savory vegetables, we must raise 12-15 kilograms per person in covered areas. Much can be done in improving the agrarian technology on open vegetable fields. Covered growing must become considerably more intense in kolkhozes, sovkhoses, industrial enterprises and energy production facilities, as well as in home gardens and gardening cooperatives.

Work has begun on two large covered growing facilities in the Kohtla-Jarve and Luunja sovkhoses, each to cover 12 hectares. In order that a broad supply of vegetables to the dinning tables be assured the management of the Kohtla-Jarve and Luunja sovkhoses must do more for accelerating the construction of the covered facilities. This holds especially true for the Kohtla-Jarve sovkhos where a large part of the combine construction schedules went unfilled. This year both combines must put the first hectare of covered growing area into use, with at least three hectares to follow in the following years. This means that the builders of the Construction Ministry must do serious work and that the managers of the sovkhoses and the Horticulture Ministry fulfill precisely the duties of the requester.

In order to broaden vegetable selection we are implementing conveyor seeding for growing less known and green vegetables, specializing and concentrating their growing rationally.

The tasks of the Horticulture Ministry include the marketing of fruits and vegetables. Our aim is that the road of garden products to the consumer not be a long one. Only then will the perishable products arrive safely on the dining table.

It is critical that all requirements be met in transporting fruits and vegetables, especially berries. If this is not done, the harvest will spoil or its appearance will deteriorate. In the near future we must arrive at a stage where these products are transported solely in containers.

The preservation of the grown and marketed harvest calls for care at every step, since there are still not enough storage facilities with regulated temperature. The greatest lack of them is in Tallinn. Currently work is underway on three storage facilities with a total capacity of 24,000 tons, scheduled for completion by the 1982 harvest. Although the completion of the warehouses by this fall is quite difficult, it is also quite realistic. The builders of the "Eesti Kolhoosiehitus" [Estonian Kolkhoz Construction] must make serious efforts, and the requesters must fulfill their obligations precisely.

The Construction and Technology Office of the Horticulture Ministry is working on reconstruction plans for the Liiva facility of the Tallinn Fruit and Vegetable Market in order to improve the marketing and storage of garden products. Once the plans are realized the uninterrupted reception, preservation and selection of products in peak procurement periods will be assured. Inspection and assortment lines, container dumpsters and other facilities will be put into use, and they will help to reduce some of the difficulties that became apparent in last year's harvest period. Similar work is to take place in facilities of other towns. We must do much to reduce manual labor in the procurement, transport, and marketing of garden products.

In cooperation with retail organizations we plan to organize the marketing of vegetables and fruits so that the grown product will reach the consumer fresh, in good quality, and largely prepared for immediate consumption. This means that auxiliary plants of the sovkhos and vegetable bases be supplied with processing and packaging equipment and packing materials, containers and special vehicles. Here we expect help also from the communal agencies.

As far as the retail culture of fruits and vegetables is concerned one could mention the specialized store No 5 of the Fruit and Vegetable Market at 66 Parnu Road in Tallinn, headed by Halda Land. There fruits and vegetables are always available in a wide selection, being presentable, washed and packaged. The Narva sovkhos (director Nikolai Vlassov) and the Kullaaru sovkhos (director Toomas Varek) have begun to meet effectively their task of supplying Narva and Rakvere with fruits and vegetables. The Luunja sovkhos (director Ilmar Laurits) grew vegetables successfully.

Unfortunately, the first working year showed that not all the links of the new ministry are functioning as well as they should. Some sovkhoses producing vegetables cared only for increasing quantities and did not meet the scheduled marketing period. The fruit and vegetable complexes have not always taken care that sufficiently well preserved vegetables be in the warehouses. Last year there were difficulties in supplying Tallinn and Tartu.

It is time to implement new standards for vegetables. Instead of the current two classes vegetables should be divided into at least three classes (select, I and II class).

Trade in vegetables and fruits is a lot more complicated than with other items. Unfortunately we have not been able to establish a good environment for our marketing workers, there are still difficulties with special clothing. This too requires attention.

A healthy diet requires that each person should eat 90 kilograms of fruits and berries a year. Our task is to double the total harvest. Currently there are almost 14,000 hectares of orchards in the ESSR of which 11,000 hectares grow mature trees. New plants are required to establish intensive orchards. The nurseries were largely destroyed in the winter of 1978-1979. We have taken steps to solve the problem. Last year 33,000 grafts were made in the Rongu sovkhos and this spring they were planted in plastic greenhouses. This obviated unfavorable weather influence, and we will receive new plants 1 year earlier. In the Polli experimental station berry layering in artificial fog was implemented.

Last year we sold 178,000 fruit trees and 142,000 berry bushes. This satisfied the requirements of the collectives and also of the majority of the population. We hope to sell even more fruit trees and berry bushes this year.

The Tartu Canning Plant produces more than a hundred different types of vegetable and fruit preserves which allows for a steady supply throughout the year. Especially noteworthy is the work of this collective in producing children's preserves, amounting to about 30. It is necessary to develop the garden products processing industry both in Tartu and Viljandi, as well as in the sovkhoses.

We pay great attention to assisting those who grow fruit and vegetables in their home gardens and gardening cooperatives. We supply them with seeds, planting materials and other necessities, and help to alleviate disturbances that can arise in procuring and processing garden products.

The development of ornamental gardening has reached a point where 13 cut flowers and 3 potted plants are grown per person per year. In the last 5 years the retailing of carnations, roses and chrysanthemums has grown more than fivefold. Demand is

increasing. For this reason we are expanding bulb flower growing in the Kullaaru and Lahmuse sovhozes. We are growing an increasing number of azaleas, petunias and other winter-blooming potted plants, as well as tiger lilies; lilies, larkspur, lilies-of-the-valley and other flowers. In the Jarve department of the Tallinn gardening sovkhōz a programmed chrysanthemum growing method is being implemented, allowing for two to three harvests a year.

The sovkhōzes of our ministry last year sold twice as many apples and berries as in 1980. Sales of meat and milk also increased. The industrial plants of the ministry met the 1981 marketing target by 101 percent. The retail sales plan was met by 110.7 percent.

The procurement period last year was postponed due to weather and was a short one. With strenuous efforts we succeeded in storing more products than last year. Current storage is satisfactory, supplies for the winter are adequate.

Many vegetables and potatoes are stored in the kolkhozes and sovkhōzes. They must be brought to town in good time.

Currently the sovkhōzes of the Horticulture Ministry are compiling the 1982 sowing plan. The aim is to grow enough garden products each year to meet the demand.

Careful work is also being done in the farms of the gardening sovkhōzes. Winter quartering of livestock is proceeding satisfactorily. Preparation for spring sowing is being checked daily--machine maintenance, preparing seed for sowing, and securing fertilizer. Production and productivity in our sovkhōzes are such that a wasted day can hardly be made up later on.

The ESSR Horticulture Ministry does everything to secure an adequate supply of garden products for the population. Additional optimism is evoked by the fact that recently the CPSU Central Committee and the USSR Council of Ministers adopted a decree regarding the expansion of the material-technical base of our system.

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AGRO-ECONOMICS AND ORGANIZATION

FINANCIAL RESOURCES OF AGRICULTURE IN 11TH FIVE-YEAR PLAN

Moscow FINANSY SSSR in Russian No 1, Jan 82 pp 17-25

/Article by V. N. Semenov, chief of the Agriculture Financing Administration of the USSR Ministry of Finance: "Finances of Agriculture in the 11th Five-Year Plan"⁷

/Text The 26th party congress adopted a broad program for a rise in the well-being of the Soviet nation, in which the task of improving the supply of food for the population is put in the forefront. The congress considered it necessary to develop a special food program on the basis of the further advance of agriculture. In turn this requires the creation for kolkhozes and sovkhoses of stable economic conditions for expanded reproduction, systematic intensification, introduction of present achievements of scientific and technical progress, strengthening of the material and technical base, overall mechanization of agriculture, extensive land reclamation, observance of the Leninist principle of material interest, correct combination of public, collective and private interests and a system of social measures aimed at raising the standard of living of rural workers.

The March (1965) Plenum of the CPSU Central Committee worked out an overall program for the advance of agriculture, which was developed by the decisions of subsequent plenums and of the 24th, 25th and 26th party congresses.

The creation of stable economic conditions ensuring a dynamic development of agriculture necessitated a considerable redistribution of the national income in its favor. During the last three five-year plans, as a result of the increase in purchase prices and the implementation of other measures, agriculture obtained 240 billion rubles, that is, 7 percent of all the state budget expenditures during those years. Such investments became possible owing to the country's increased economic potential. With the rise in purchase prices great changes took place in the state budget: The receipt of turnover tax on grain products, oil seeds, sugar and cotton and wool fabrics decreased and the allocations for compensation for the difference between purchase and retail prices of meat, milk, vegetables and potatoes increased sharply. The rise in purchase prices of agricultural products was not accompanied by a rise in retail prices of foodstuffs. The course of the Communist Party for a rise in the standard of living of the Soviet people was reflected in this.

The additional investments in agriculture owing to the increase in purchase prices and other measures made it possible to raise wages in this sector and to systematically expand the production of plant and animal products. In 1980, as compared to 1964, the wages of kolkhoz members increased 2.3-fold and of sovkhos workers, doubled.

At the same time, material and technical supply for agriculture improved. The last three five-year plans account for 383 out of the 451 billion rubles of capital investments obtained by the sector during all the years of Soviet rule. During 1966-1980 kolkhozes and sovkhoses received 4.9 million tractors, 1.4 million grain harvesting combines and 3.2 million trucks and specialized motor vehicles. During that time the power-worker ratio tripled and labor productivity rose 1.8-fold.

In accordance with the decisions of the May (1966) Plenum of the CPSU Central Committee a far-reaching land reclamation program is implemented in the country. During three five-year plans 10.2 million hectares of irrigated and 11.9 million hectares of drained land were put into operation and capital investments in the construction of waterworks and land reclamation totaled 74.8 billion rubles. The chemicalization of agriculture is carried out systematically. A total of 882 million tons of mineral fertilizers were supplied during the same period. The production of complex mineral fertilizers and the content of nutrients in them are increasing at outstripping rates. The production of agricultural plant protection agents is growing rapidly.

The scientific and realistic nature of the agrarian policy of the CPSU and its mobilizing force are confirmed by the attained results. After the March (1965) Plenum of the Central Committee of the party agriculture embarked on the path of a steady advance and dynamic development. Despite the exceptionally unfavorable weather conditions, during the 10th Five-Year Plan, as compared to the Ninth Five-Year plan, the volume of agricultural output increased by 9 percent and additional output worth 51 billion rubles was produced.

The agrarian policy of the party was developed by the 26th congress. In accordance with its decisions during the 11th Five-Year Plan provision is made to expand the average annual volume of agricultural output by 13.3 percent, as compared to the past 5-year period, which is evident from the following data:

(billion rubles)

Years	Average annual gross output in 1973 prices	Years	Average annual gross output in 1973 prices
1956-1960	73.7	1976-1980	123.9
1961-1965	82.8	1981-1985	140.2
1966-1970	100.4	In percent	
1971-1975	113.7	of 1976-1980	113.3

Output worth 82.3 billion rubles should be additionally produced during the 11th Five-Year Plan, which is 62 percent more than the increase during the past five-year plan. This will be attained through a continuous intensification of agricultural production, strengthening of its material and technical base, overall mechanization and chemicalization and extensive land reclamation. By 1985 the delivery of mineral fertilizers is to be increased to no less than 115 million tons, of chemical feed additives, to 5 million tons and of chemical plant protection agents, to 680,000 tons. A total of 113.4 kg of mineral fertilizers per hectare of arable land will be supplied by the end of the 5-year period--40 percent more than in 1980.

The retooling of agriculture on the basis of the introduction of new equipment, industrial flow methods of production and advanced technology will continue. The production of corn and sugar beets based on industrial technology will increase. During the 5-year period plans are made to supply the sector with 1,870,000 tractors, 1,461,000 trucks and 600,000 grain harvesting combines and agricultural machinery worth about 30 billion rubles.

The proportion of agriculture in the country's capital investments (27 percent) formed during the 10th Five-Year Plan is maintained. A total of 189.7 billion rubles of capital investments, including 130.3 billion rubles of state capital investments, will be assigned for the development of this sector for the entire set of operations. Therefore, the volume of capital investments in agriculture will increase by almost 26 billion rubles, as compared to the 10th Five-Year Plan. The agrarian policy of the Communist Party also finds a real embodiment in this.

Budget allocations predominate in the sources of financing for state capital investments in agriculture. During this five-year plan they will comprise about 60 percent and depreciation, 25 percent. The allocation of long-term credit for capital investments will be of great importance for the development of kolkhozes.

Poultry factories, livestock barns, storage facilities, warehouses and roads will be built at the expense of capital investments based on the state plan. In practice, the entire increase in investments is assigned for the construction of roads, housing, projects for cultural and general purposes and vegetable storage facilities at sovkhoses and other state agricultural enterprises. A differentiated approach to financing capital investments with varying profitability will be maintained.

According to the decree dated 13 April 1967 of the CPSU Central Committee and the USSR Council of Ministers "On the Transfer of Sovkhoses and Other State Agricultural Enterprises to Full Cost Accounting" sovkhoses carry out expanded reproduction at the expense of their own capital. At the same time, the construction of new enterprises, hotbed and hothouse combines, complexes for the production of milk and fish breeding, dwellings, schools, medical and children institutions, clubs, bath houses and other projects for cultural-general and municipal purposes, reclamation and watering systems and installations in them on all sovkhoses, regardless of profitability, is financed from the budget.

During the 11th Five-Year Plan internal capital and, when there is a shortage of it, bank credits are allocated for the construction of complexes for pork and beef production on an industrial basis with state feed, as well as for the construction of poultry factories. On low-profitability and unprofitable sovkhoses capital investments for production purposes are also financed from depreciation allowances earmarked for a full replacement of fixed capital and from other internal capital and, when there is a shortage of it, from the budget.

The procedure of budget financing is applied to sovkhoses with a profitability of up to 10 percent. At the same time, poultry factories and sovkhoses whose financial position has been stable in the last few years, enabling them to normally develop production from their own capital, do not belong to such farms.

The lists of sovkhoses receiving allocations from the budget for production expansion are approved by the councils of ministers of the Union republics. In 1981 more than 70 percent of all the sovkhoses received budgetary assistance. Such assistance makes it possible to fulfill the program for an increase in the production of agricultural products envisaged by the 26th CPSU Congress.

For the purpose of a more efficient utilization of material and financial resources the total volume of capital investments, without subdivision according to the sources of financing (centralized and noncentralized), was established for sovkhoses and other state enterprises for the 11th Five-Year Plan, as in the 10th Five-Year Plan. Thus, financial resources--the fund for the strengthening and expansion of the economy, the fund for social and cultural measures and housing construction and bank credits--are envisaged in the financial plan as sources of financing for the limit of capital investments determined in the national economic plan.

At the same time, in 1981-1985 sovkhoses received the right to make capital investments in excess of the established volume from bank credits. For these purposes the USSR State Bank grants sovkhoses credits within the amounts envisaged in the long-term credit plan provided the measures for which credit is allocated are implemented within the period of up to 1 year and are recovered and the loan is paid off within 2 years from the completion of measures. Credits are liquidated from the profit or savings resulting from the reduction in production costs as compared to the plan. A rapid recovery and mobilization of local building materials are the characteristics of such additional investments. Therefore, it is very important to use the credits granted for above-plan capital investments with the greatest efficiency. Otherwise debts on loans unsecured with repayment appear inevitably and the financial state of sovkhoses deteriorates.

During the 11th Five-Year Plan the increase in the standard of internal circulating capital and the expenditures on the formation of the basic herd of productive and work livestock will be financed by sovkhoses from their own capital and, when there is a shortage of it, from bank credits granted for 2 years. On economically weak farms, when there is a shortage of internal capital, loans are liquidated by the budget allocations envisaged in the financial plan. Planned losses from the operation of projects for housing and municipal services and from the sale of fuel to the population on such farms, when there is a shortage of internal capital, are recovered from the budget.

In accordance with the decision of the July (1978) Plenum of the CPSU Central Committee the procedure of state insurance established for kolkhozes is extended to the sovkhoses of the system of the USSR Ministry of Agriculture. A total of 1 billion rubles are annually provided in the budget for low-profitability sovkhoses for insurance payments. In the 1982 plan the structure of budget allocations for sovkhoses is as follows:

	(%)
capital investments	57.2
increase in the standard of circulating capital	1.2
formation of the basic herd	0.2
liquidation of bank loans received for an increase in the standard of circulating capital	5.9

liquidation of bank loans received for the formation of the basic herd	5.0
insurance payments	10.1
losses from the sale of output	13.5
losses of housing and municipal services	1.5
others	5.4
Total	100.0

For the 11th Five-Year Plan the profit of sovkhoses is planned in the amount of 21.4 billion rubles. It is assigned for economic expansion and for economic stimulation funds, that is, the material incentive fund, the fund for social and cultural measures and housing construction and the fund for strengthening and expanding the economy, as well as for bonuses for managers and specialists. The reserve fund now receives 20 percent and in the RSFSR and the Kazakh SSR, up to 30 percent of the actual profit after the exclusion of the charge for fixed capital for agricultural purposes from it.

In order to more interest sovkhos workers in an increase in output and in an improvement in its efficiency, a new procedure of formation of the material incentive fund and of award of bonuses for managers and specialists has been in effect as of 1981. The material incentive fund on sovkhoses is formed according to stable standards depending on the increase in production and profit derivation and on unprofitable sovkhoses, depending on the reduction in losses. Standards are established in percent of the profit per percent of increase in the volume of gross output as compared to the average annual level of the preceding 5 years, as well as for the derivation of profit. On low-profitability and unprofitable sovkhoses this fund is formed per percent of increase in the volume of gross output as compared to the average annual level of the preceding 5 years at the rate of 0.3 percent of the amount of the annual planned wage fund. On these farms for a reduction in losses, as compared to the average annual level of the preceding 5 years, 15 percent of the total amount of such a reduction is also deducted and, when profit is obtained, deductions are made as on profitable farms.

The total amount of deductions into the material incentive fund of sovkhoses during the year of establishment of standards should not exceed 12 percent of the annual planned wage fund. Superior organizations are granted the right to differentiate the deductions into this fund on sovkhoses in coordination with trade-union committees.

The new procedure of profit distribution and use is to increase the interest of sovkhoses in the growth of production and purchases of agricultural products. At the same time, there is a need for stricter control on the part of financial bodies and bank institutions for the financial and economic activity of sovkhoses during financing, crediting, audits and checks. Many losses and unproductive expenditures are still tolerated here. The yield of crops and the productivity of animals are low on a number of farms.

In accordance with the decree dated 14 November 1980 of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Economic Stimulation of the Production and Procurement of Agricultural Products" kolkhoses are advised

of the indicators of commissioning of fixed capital and key production capacities and projects for nonproduction purposes and of the limits of state capital investments and contract work on the development of agriculture envisaged by the calculations for the plans for economic and social development for the corresponding years. The volumes of capital investments for kolkhozes envisaged by calculations and by the plan for economic and social development are secured with material and technical resources. For the current 5-year period the volume of capital investments for kolkhozes is determined in the amount of 59.4 billion rubles.

In contrast to sovkhoses kolkhozes do not receive direct outright allocations from the budget. However, a large set of measures for an increase in soil fertility, preventive measures for the control of animal and plant pests and diseases, for social security and so forth are also implemented with the budget capital for them. Capital investments on kolkhozes are financed from their own capital and bank credits granted for a period of up to 20 years depending on projects and measures. The proportion of credits in the sources of capital investment financing exceeds 35 percent.

The solution of social problems connected with a rise in the level of socialization of kolkhoz production, improvement in social relations, approximation of the two forms of socialist property and gradual elimination of the significant differences between urban and rural areas required, first of all, a considerable rise in the standard of living of rural workers. Guaranteed wages of kolkhoz members according to sovkhos norms and rates were introduced by means of long-term credits. In connection with direct bank credit kolkhozes are granted long-term credit for these purposes. Wage expenditures are credited as part of production expenditures. As a result, the consumption fund increased sharply. Whereas in 1980, as compared to 1965, the gross income of kolkhozes increased 1.1-fold, the wage fund of kolkhoz members, 1.7-fold. Of course, the proportion of internal capital in production expansion decreased and the amounts of short- and long-term bank loans increased.

On the basis of production and labor productivity growth in accordance with the decisions of the 26th party congress the income of kolkhoz members from their public sector should increase by 20 to 22 percent during the 11th Five-Year Plan. According to calculations kolkhozes will obtain 26.9 billion rubles of net income during the 5-year period.

During the distribution of net income provision should be made for a mandatory growth of deductions into indivisible funds for an increase in fixed and circulating capital. Only then will agricultural output grow and the financial state of kolkhozes will be strengthened. In connection with this it is necessary to properly utilize a powerful economic lever--short- and long-term credit.

The new procedure of income tax collection has become an important measure of equalization of the levels of income of kolkhozes under different production conditions. In accordance with the decision of the July (1978) Plenum of the CPSU Central Committee income tax is now imposed on the net income of kolkhozes minus its part corresponding to a profitability of 25 percent, as well as payments to the centralized union fund for social security for kolkhoz members calculated for a given year. Thus, part of the net income corresponding to a profitability of 25 percent is exempt from income taxation on all kolkhozes regardless of the level of profitability.

The tax rate is established at 0.3 percent per percent of profitability exceeding 25 percent, but no more than 25 percent of the taxed net income. Furthermore, income tax is imposed on the part of the wage fund of kolkhoz members exceeding 60 rubles per month per kolkhoz member regardless of the farm's profitability. As a result, kolkhozes are able to additionally assign 0.1 billion rubles for production expansion annually.

Land reclamation will continue on a large-scale during the new five-year plan. Work on land reclamation in the nonchernozem zone of the RSFSR and on the development of irrigation systems in the south and south-east of the country's European part, Central Asia and Kazakhstan will expand at more rapid rates. Plans are made to begin the preparation for the transfer of part of the flow of northern rivers to the Volga basin and to continue the scientific studies of the transfer of the water of Siberian rivers to Central Asia and Kazakhstan. A total of 3.6 million hectares of irrigated land, 3.8 million hectares of drained land and 27.3 million hectares of watered pastures in desert, semidesert and mountain regions will be put to use at the expense of state capital investments.

The construction of reservoirs and main canals, land drainage, watering of pastures and amelioration work, as well as the construction and reconstruction of intrakolkhoz collector and drainage network, and capital leveling of irrigated land on economically weak farms are carried out at the expense of the budget.

A large set of operations for a fundamental improvement of land on kolkhozes located in an excess moisture zone are financed from the budget. Closed drainage and an open intrafarm drainage network are built and reconstructed, forests and shrubs are stubbed up and other operations are performed completely at the expense of the budget in this zone. A set of peat operations are financed by operational expenditures. A total of 85 percent of such expenditures are paid for from the budget on economically weak kolkhozes in other zones and 50 percent of the expenditures on acid soil liming, including the cost of fertilizers, and the expenses on their transportation and application to soil, on other kolkhozes.

A total of 40.4 billion rubles of state capital investments are provided for land reclamation in 1981-1985. Furthermore, about 5.6 billion rubles will be allocated for the extraction and application of peat as fertilizer and for soil liming and gypsuming from operational expenditures. The total expenditures on land reclamation financed from the budget will reach 46 billion rubles.

The interfarm irrigation and drainage network, pumping stations, reservoirs, main canals and water lines are maintained and repaired at the expense of budget allocations. Water is allocated to kolkhozes and sovkhoses free of charge. During the 5-year period more than 6 billion rubles will be allocated for the maintenance and repair of the interfarm irrigation and drainage network and all the expenditures on land reclamation will total 52 billion rubles, that is, 24 percent more than during the 10th Five-Year Plan.

Such sizable expenditures on land reclamation require the activation of all the existing potentials for an increase in the effectiveness of capital investments. On many kolkhozes and sovkhoses the yield of agricultural crops is still low and the withdrawal of irrigated and drained land from agricultural turnover is allowed.

The volumes of capital investments and deliveries of equipment to agriculture are determined in current prices. As a result, compensation for the difference between the wholesale prices of industry for the machinery and equipment delivered to agriculture has been retained. The sale of material and technical facilities at prices in effect before 1 July 1967 to kolkhozes and sovkhoses required compensation for the difference in the prices of machines and mineral fertilizers. A total of 2.6 billion rubles are provided for this in the budget. After the rise in wholesale prices and rates as of 1 January 1982 the subsidy for machines and mineral fertilizers will increase by 1.5 billion rubles.

It should be noted that motor gasoline is sold at existing uniform retail prices to kolkhozes and sovkhoses. They are compensated for the difference between previous and new prices in accordance with the allocations for motor gasoline. A subsidy of 1.7 billion rubles is provided for these purposes. The difference in the prices of other petroleum products is reimbursed in accordance with the same procedure as of 1 January 1982. The use of petroleum products and the prompt compensation for the difference in their prices should be controlled strictly.

Large allocations are assigned for the control of pests of agricultural crops and animal diseases, for land management and for other measures for agriculture and environmental protection. Allocations for operational expenditures will increase by 20 percent during this five-year plan.

The Communist Party pays close attention to cultural and general construction in rural areas. In accordance with the decisions of the July (1978) Plenum of the CPSU Central Committee kolkhozes, sovkhoses and other agricultural enterprises are given credit for 20 years for the construction of dwellings with farm buildings. The initial contribution is 20 percent of the estimated cost of construction. One-half of the granted credits are liquidated by sovkhoses and other agricultural enterprises from economic incentive funds and by kolkhozes from their capital provided in financial production plans. The councils of ministers of the Union republics are granted the right, as an exception, to liquidate this part of the credit at low-profitability kolkhozes, sovkhoses and other state agricultural enterprises with budget allocations especially provided for these purposes and substantiated with specific calculations.

During the 11th Five-Year Plan budget allocations for agriculture will increase by 25 billion rubles. These allocations amount to the following:

(million rubles)					
1922/23-1940	1941-1945	1946-1970	1971-1975	1976-1980	1981-1985 (calculation)
86,052	3,623	132,566	76,940	120,908	145,000

In addition to direct allocations for agriculture, direct assistance to kolkhozes and sovkhoses is given in the form of bank credits. During the current 5-year period long-term crediting of the capital investments of kolkhozes and sovkhoses will increase by 20 percent. Kolkhozes and sovkhoses are exempt from the payment of interest on previously received bank loans for production expenditures and investments as a result of unfavorable production conditions in the last few years. In accordance with the decisions of the July (1978) Plenum of the CPSU Central Committee overdue and unsecured debts on bank loans--7.3 billion rubles--were written off from kolkhozes and sovkhoses at the expense of the budget.

In connection with the large investments in agriculture the July (1978) Plenum of the CPSU Central Committee and the 26th party congress sharply set the task of increasing the efficiency of agricultural production. "If agriculture as a whole is discussed," L. I. Brezhnev stressed in the accountability report at the congress, "it faces the same main problem as other national economic sectors--increase in efficiency and quality. We will continue to allocate large financial and material resources to rural areas and proceed with the planned transfer of this sector to an industrial basis. However, the center of gravity--and this is the distinctive feature of the agrarian policy in the 1980's--now shifts to the return on capital investments, growth of productivity of agriculture and improvement and refinement of its relations with all the sectors of the agroindustrial complex."

The solution of the major and complex problem connected with an increase in the efficiency of agricultural production requires an improvement in the management of this national economic sector for the purpose of a fuller utilization of the advantages and capabilities of the economy of developed socialism.

The economy of the developed socialist society is characterized by an accelerated growth of the material and technical base, that is, a high level of socialization of means of production and labor, strengthening of the conformity to plan and a fuller utilization of objectively operating economic laws in the practice of communist construction. The prerequisites for an improvement in economic levers and incentives arise under these conditions.

The 11th Five-Year Plan begins under conditions of a fundamental change in the procedure of planning and stimulation of agricultural production. The decree dated 14 November 1980 of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Economic Stimulation of the Production and Procurement of Agricultural Products" contains a whole system of measures.

It is considered necessary to improve planning work at all the levels of management of agricultural production. It sets the task of increasing the efficiency of public production on the basis of acceleration of scientific and technical progress and strengthening of the role of intensive factors in development and of ensuring in five-year and annual plans for the development of agriculture a balance of the volume of production and state purchases of output with the existing and allocated material-technical and financial resources, fixed productive capital and limits of capital investments. Much attention should be paid to the combination of centralized management of this sector with the further expansion of economic independence of agricultural enterprises, not permitting petty tutelage over farms and increasing the responsibility of managers, specialists, kolkhoz members and workers for the development of agricultural production and their interest in the final results of work.

The CPSU Central Committee and the USSR Council of Ministers condemned the practice, which exists in a number of cases, of imposing assignments not envisaged in state plans for economic and social development on kolkhozes, sovkhoses and other agricultural enterprises and associations. The volume of agricultural output, size and structure of sown areas, livestock population, yield of agricultural crops, productivity of animals and production technology and organization are determined in five-year and annual economic plans on the basis of the need for an unconditional fulfillment of state purchase plans and satisfaction of intrafarm needs for agricultural products.

Unified purchase plans without the assignment of a firm plan are established for the 11th Five-Year Plan. According to the 1981 plan the payments of a 50-percent increment for an above-plan sale of products to the state totaled 3.6 billion rubles. For the purpose of preserving the existing average level of state payments per unit of output sold by kolkhozes and sovkhoses new purchase prices with an inclusion of the previously paid 50-percent increments for an above-plan sale in them have been established.

For the stimulation of the growth of production and purchases of agricultural products the payment of a 50-percent increment for the sale of output in excess of the level attained during the 10th Five-Year Plan to the state was established. Its payment in terms of 1981 was as follows:

Products	Increase in purchase prices		(%)
	Payment of 50% increment in % of the total		
Grain crops	9.9		31.6
Sunflower seeds	3.4		2.9
Sugar beets	5.8		6.1
Potatoes	9.7		3.8
Raw cotton	7.2		4.5
Livestock and poultry	2.0		30.4
Milk	6.8		13.8
Wool	1.0		3.0
Other products	2.6		3.9
Total		4.9	100.0

As a result, in 1981 the allocations for compensation for the difference in prices for the purchase of agricultural products increased by 4 billion rubles and during the 5-year period, with due regard for the envisaged increase in the sale of products to the state, the amount of these allocations will be 28 billion rubles. In connection with the stability of state retail prices of basic foodstuffs the budget allocations for compensation for the difference between accounting and retail prices totaled 33 billion rubles in 1981. With the growth of the volume of purchases of agricultural products the subsidy from the budget for these purposes will increase by 30 percent during the 11th Five-Year Plan.

The strengthening of the material and technical base of kolkhozes and sovkhoses and improvement in planning and economic stimulation will help to fulfill the envisaged assignments for the growth of production and purchases of agricultural products. Along with an improvement in planning and strengthening of planning discipline the decisions of the 26th party congress attach great importance to an intensified effect of cost accounting, finances and credit on the development of production, improvement in the qualitative indicators of management, reduction in unproductive expenditures and losses and increase in state revenues.

A dynamic growth of agricultural output, a reduction in the expenditures on its production and a fuller utilization of equipment are the basis for the strengthening of the financial state of kolkhozes. An improvement in financial and credit relations with agriculture will greatly help to solve the public problems of advancing it.

Financial bodies and bank institutions play a very important role in the solution of this problem. It is necessary to intensify control over the utilization of funds for construction and the purchase of machinery and equipment for the purpose of reducing the number of newly begun construction projects. Special attention should be paid to a reduction in the value of incomplete construction, observance of standard construction periods and provision of building production with the necessary sources of financing.

To finance agriculture in strict correspondence with the plan, not permitting the withdrawal of funds for purposes not connected with agricultural production, and to mobilize the reserves for the further increase in the profitability of kolkhoz and sovkhos production are the urgent tasks of financial bodies during the 11th Five-Year Plan.

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AGRO-ECONOMICS AND ORGANIZATION

ORGANIZATION OF INTER-FARM COOPERATION, AGROINDUSTRIAL INTEGRATION OUTLINED

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/Article by G. Dolgoshey, director of the All-Union Scientific Research Institute of Agricultural Economics and member of the Board of the USSR Ministry of Agriculture: "Economic Mechanism of Inter-Farm Cooperation and Agroindustrial Integration"/

/Text/ In carrying out the measures aimed at improving the efficiency of social production, an important role will be played by the processes of specialization and concentration, based upon inter-farm cooperation and agroindustrial integration, which at the present time embrace many spheres of activity by the country's kolkhozes and sovkhozes. In the decisions handed down during the 26th CPSU Congress, emphasis was placed upon the need for consistently developing these processes during the 1980's.

The steady implementation of the program outlined during the March (1965) Plenum of the CC CPSU for raising the efficiency of agricultural production and intensifying such production has promoted the creation of favorable conditions for improving the farm economies and the introduction into the branch of the achievements of scientific-technical progress. Objective prerequisites were created for improving the forms for production organization, strengthening specialization and further raising the level of concentration, for developing the processes of inter-farm cooperation and agroindustrial integration and converting agriculture over to an industrial basis.

During the past few years, these processes have undergone planned development in connection with rapid growth in the productive forces and improved production attitudes. In this regard, a very special role has been played by the 28 May 1976 Decree of the CC CPSU entitled "Further Development of Specialization and Concentration in Agricultural Production Based Upon Inter-Farm Cooperation and Agro-Industrial Integration." This decree furnishes a summary of the experience accumulated in developing the collective forms for socialist agriculture in our country and it also provides the scientific principles for their subsequent evolution to a more improved organization of production in an agroindustrial complex.

During the development of inter-farm cooperation and agroindustrial integration, various forms have appeared for organizing agricultural production and control and this was associated with specific conditions of a natural-climatic and economic nature. The USSR Ministry of Agriculture, jointly with USSR Gosplan and the USSR

CSA and following a careful study of the new formations and also following a thorough discussion with the republic agricultural organs and scientific institutes, defined six principal organizational forms of inter-farm cooperation and agroindustrial integration within the USSR Ministry of Agriculture system.

Inter-farm enterprises (organizations) are created by kolkhozes, sovkhoses and other state, cooperative and public enterprises and organizations through the voluntary merging of a portion of their financial, logistical and labor resources. As a rule, such enterprises (organizations) are created for one type of activity. An inter-farm enterprise carries out its activities according to a plan, in conformity with the requirements of participating farms and on a cost accounting basis. It carries out its obligations and enjoys the rights associated with these activities, it has an independent balance and it is a legal entity. The output and profit obtained by an inter-farm enterprise belong entirely to the participating farms.

An inter-farm enterprise sells the products produced: to the state in behalf of fulfillment of the procurement plans established for the participating farms and the obligations of these farms, as called for in the contractual agreements and also in appropriate instances (when the inter-farm enterprise, during the course of production operations, does not have technological contacts with the participating farms) in behalf of fulfillment of the procurement plans established for the inter-farm enterprise (organization); for the participating farms, in conformity with the production-financial plan and the agreements concluded with them; for the state, cooperative and public enterprises and organizations and also at markets in the established manner.

In a number of oblasts and republics, the inter-farm enterprises, together with the farms which created them, were given the title of inter-farm associations for one type of activity. In the process, relationships between participants in cooperation are regulated by the general statute for an inter-farm enterprise (organization) in agriculture.

In 1980 there were more than 9,600 inter-farm enterprises in agriculture, including 1,700 for the production of agricultural products, 2,600 for providing services to kolkhozes and sovkhoses and 3,100 for construction and the production of construction materials.

A number of kolkhozes, sovkhoses and other state agricultural enterprises are performing individual production functions based upon the principle of inter-farm cooperation. This includes farms which are performing such functions as livestock fattening, the raising of first heifers and heifers and the production of feed, seed and other agricultural products. In 1980 there were approximately 5,000 farms of this category, of which number 1,700 were for the fattening of large-horned cattle, 150 -- for the production of pork and 600 -- for the raising of first heifers and heifers.

The agroindustrial enterprises (kolkhozes, sovkhoses and other agricultural enterprises having industrial production efforts for the processing of agricultural products) include kolkhozes, sovkhoses, poultry factories, sovkhos-plants, inter-farm and other agricultural enterprises having permanent workers on their tables of organization, individuals engaged in the processing, packaging and storage of agricultural products and who process no less than 25 percent of the output of one of the branches in which the farm specializes. Farms in which the existing

industrial subunits only carry out operations which are not associated with the processing of agricultural products (which manufacture, for example, furniture, consumer goods and so forth) are not included in the group of agroindustrial enterprises. In all, there were 604 agroindustrial enterprises in the country in 1980.

Agricultural production associations are individual production-economic complexes, the operations of which are carried out based upon specialization, concentration and cooperation in production and the centralization of a number of production-economic functions and resources, for the purpose of achieving the greatest efficiency in carrying out these operations.

The structure of an association includes, on a voluntary basis, kolkhozes, sovkhoses, inter-farm enterprises (organizations), enterprises for the processing of agricultural products, motor transport and other state and cooperative enterprises and organizations (according to the nature of their activity). The kolkhozes, sovkhoses and other enterprises and organizations that are included in the structure of an association retain their economic independence and the rights of a legal entity. The work of the production association organizes the apparatus of the leading enterprise. When necessary, a separate control apparatus is created in individual instances. The association's council serves as an organ of democratic control, the decisions of which are mandatory both for the association's administration and for the leaders of the enterprises and organizations included in its structure. In 1980 there were approximately 300 production associations in agriculture.

In the interest of expanding and strengthening economic contacts between the agricultural production associations and organizations of other ministries and departments of the agroindustrial complex and for coordinating efforts aimed at solving production, socio-economic and cultural-domestic problems, the mentioned enterprises and organizations may participate, on a contractual basis, in the activities of agricultural production associations (while not being included in the structure of these associations).

Production agroindustrial associations are individual production-economic complexes in which production operations are carried out based upon specialization, concentration and integration in the production, processing and storage and, under certain conditions, in the trading in agricultural products and products obtained from processing. By a decision of the council, the association centralizes, either fully or partially, the fulfillment of individual production-economic functions by the enterprises and organizations included in its structure.

The structure of a production agroindustrial association may include kolkhozes, sovkhoses, inter-farm enterprises (organizations), enterprises for the processing and storage of agricultural products, trade organizations and motor transport and other state and cooperative enterprises and organizations (in terms of all of their activities). The kolkhozes, sovkhoses and industrial and other enterprises and organizations included in the structure of an association retain their economic independence and the rights of a legal entity. Kolkhozes, sovkhoses and other enterprises and organizations not included in the structure of an association may participate in the work of the latter, in one or several types of activity on a contractual basis. In 1980, six agroindustrial associations operated within the

USSR Ministry of Agriculture system, six within the USSR Ministry of the Fruit and Vegetable Industry and 138 within the USSR Ministry of the Food Industry system.

The scientific production associations in agriculture are individual scientific production and economic complexes, the structure of which includes scientific-research, design, planning-design and technological organizations, plants, experimental and experimental-production farms, agricultural enterprises and other structural units depending upon the tasks assigned to the association.

When necessary, individual sovkhoses and other agricultural enterprises and organizations can be made subordinate, in the established manner, to a scientific-production association. The kolkhoses and inter-farm enterprises (organizations) participate in the work of a scientific-production association on a contractual basis.

The chief tasks of these associations -- development of and implementation of improvements in the leading technology for producing agricultural products, breeding and introducing into production operations of new and highly productive varieties of agricultural crops and highly productive livestock strains that are suitable for use in connection with the industrial technology for livestock maintenance and feeding and so forth. The scientific-production associations (there are presently 29 of them) must become proponents of the use of scientific-technical achievements in agriculture.

The classification of the principal organizational forms for inter-farm cooperation and agroindustrial integration is an important normative document and one which makes it possible to maintain proper order in their creation. Quite often, the same forms are referred to in a different manner. However, the problem is not simply one of the name given to a form. Each organizational form of cooperation is characterized by specific principles which define the method for its formation, planning, financing, crediting, relationships among the participating farms, administrative methods and so forth. A classification is also required for ensuring uniformity in accounting and reporting and for analyzing and evaluating their activities in an objective manner.

The indisputable advantages of large-scale specialized production can be revealed using many inter-farm and agroindustrial formations as examples. As a rule, industrial methods for farm management are employed more extensively in such formations, better use is made of fixed productive capital, labor productivity is higher, expenditures for the production of a unit of output are lower than those for individual kolkhoses or sovkhoses; favorable prerequisites are created for the efficient use of the factors of production intensification, for improving procurements and the transporting, storage and processing of agricultural products and the social problems of the rural areas are solved in a better manner.

Prior to 1968, pork production in Buturlinovskiy Rayon in Voronezhskaya Oblast was carried out at multi-branch farms. Following the construction of an inter-farm specialized complex during the 1968-1978 period (the administrative borders of the rayon were changed in 1979), pork production on the farms -- participants in cooperation -- increased by threefold, feed expenditures per quintal of increase in live weight decreased by 36 percent, labor productivity for the branch increased by a factor of 3.3, the annual total amount of profit realized from swine raising rose by a factor of more than 4 and the expenditures incurred for construction of

the complex were repaid twofold. Although the profitability for swine raising during 1980 was 19 percent for farms throughout the rayon as a whole, the kolkhozes and sovkhoses in Voronezhskaya Oblast operated at a loss. The expenses per quintal of pork were higher for the oblast on the whole than they were for the rayon: labor -- by 43 percent, feed -- by 19 and production costs higher by 43 percent.

Positive experience was accumulated in inter-farm cooperation in Gomel'skiy Rayon, Gomel'skaya Oblast in the Belorussian SSR. During the period devoted to organizing livestock fattening on a cooperative basis, beef production here increased by a factor of 1.5, labor expenditures per quintal fell by 30 percent and beef production profitability amounted to 31 percent, or twice as high as the average for the oblast.

Growth in milk production and improvements in the productivity of the milking herd were achieved at the Ardym'skiy Production Association for the raising of heifers in Penzenskaya Oblast. During the Tenth Five-Year Plan, this association produced 85 percent of the heifers raised in Penzenskiy Rayon in this oblast. During this period, the productivity of the cows in the rayon increased by 247 kilograms and amounted to 3,129 kilograms, compared to 2,002 kilograms for farms throughout the oblast.

Many examples could be cited reflecting the efficient activities of agroindustrial formations. Thus, for example, the proper combination of output production, storage and processing operations, in addition to other measures, enabled the Zarya Kommunistizma Kolkhoz in Rovenskaya Oblast, during the 1970-1980 period, to increase its gross agricultural output (compared to 1973 prices) from 2.9 to 7.1 million rubles and industrial output (1975 prices) -- by a factor of six. The farm's net income increased from 2.6 to 5.0 million rubles.

The extensive spread of leading experience in specialization and concentration based upon inter-farm cooperation and agroindustrial integration represents an important reserve for raising the efficiency of agricultural production.

In summarizing the positive results of this great, complicated and extremely diverse work, the July (1978) Plenum of the CC CPSU focused the attention of the party, soviet and agricultural organs on the need for improving activity and efficiency in work directed towards developing the processes of inter-farm cooperation. In his report delivered before the Plenum, Comrade L.I. Brezhnev formulated the chief requirements for carrying out this work -- a well thought out approach, scientific validity and high production results. Special attention and serious study must be given to selecting the best organizational forms for specialization and concentration, which are raising the socialization of production and labor to a new level, are based upon the latest achievements of scientific-technical progress, ensure a high level of labor productivity and produce maximum amounts of inexpensive products.

Inter-farm cooperation is still not producing the desired effect, at all times or in all areas, with regard to raising the efficiency of agricultural production. This is why, under modern conditions, the leading workers and branch specialists are devoting special attention to solving this task.

During a meeting of the Board of the USSR MSKh /Ministry of Agriculture/ in December 1979, dedicated to the problems of production specialization and concentration, emphasis was placed upon the fact that the operational efficiency of the new forms of production organization is dependent to a considerable degree upon how skilfully the process of cooperation is administered by the agricultural organs at all levels. In many instances the specialized farms, inter-farm enterprises and production associations are being created in the absence of the required technical-economic validation, in haste, and without comprehensive solutions being found for all of the interrelated problems upon which their efficient operation depends. During the creation, for example, of inter-farm animal husbandry complexes, consideration was not given to the problems of herd reproduction, satisfying fully the livestock requirements for internally produced feed, introducing a progressive technology and scientific organization of labor or staffing the enterprises with the required personnel. There have been cases of small inter-farm enterprises being created, facilities the dimensions of which were less than optimum and whose construction schedules were disrupted. The mentioned shortcomings served as the principal reason for a large number of inter-farm formations operating at a loss.

A most important task of those leading workers and agricultural specialists engaged in directing and organizing the process of developing inter-farm cooperation and agroindustrial integration is that of providing more thorough substantiation for the creation of new inter-farm and agroindustrial formations. The recommendations of the NTS /Scientific and Technical Council/ for developing the economic basis for inter-farm and agroindustrial formations, approved in October 1981, must play an important role in this work. The rapid introduction of these recommendations into operational practice will make it possible to direct and coordinate, in a more skilled manner, all work concerned with specialization and concentration and to solve those problems associated with selecting its best organizational forms and their rapid introduction into agricultural production. In each specific instance, there must be an organizational-production structure for a formation which will ensure optimum functioning of all elements in the common production cycle. In the process, extreme importance is attached to ensuring maximum use of the total production potential of all partners in cooperation, not only for increasing the production of goods but also for lowering expenses per unit of output.

A most important condition for the efficient functioning of new formations is the establishment of an economically sound managerial mechanism. The CPSU is devoting unremitting attention to these matters. "We are striving to ensure" stated Comrade L.I. Brezhnev during the July (1978) Plenum of the CC CPSU, "that all of the diverse economic relationships within the farms and the entire agroindustrial complex serve to create a community and unity of interests for the state, kolkhozes and direct producers of products. V.I. Lenin considered one of the chief principles of socialist management to be that of achieving a correct combination of the interests of all sides participating in the production and sale of products." The efficient functioning of integrated systems is possible only in the presence of a community of interests that make it possible to direct the efforts of all of the collectives of a formation towards achieving the final goal -- obtaining the overall maximum effect. In examining the effect of a community of interests on the final result, F. Engels noted: "Where there is no community of interests, there can be no unity of goals, not to mention unity of action" (K. Marx, F. Engels, Works, Vol. 8, p 14).

In the work concerned with improving the economic levers of inter-farm cooperation and agroindustrial integration and raising their efficiency, strict attention must be given to the principles and positions set forth in the CC CPSU decree entitled "Further Improvements in the Economic Mechanism and the Tasks of Party and State Organs," to the decree of the CC CPSU and the USSR Council of Ministers "On Improvements in Planning and Increasing the Effect of the Economic Mechanism With Regard to Raising Production Efficiency and the Quality of Work" and to the decree of the CC CPSU and USSR Council of Ministers "On Improvements in Planning and in the Economic Stimulation of Production and Procurements of Agricultural Products." They appear as a complete system of scientifically sound economic and organizational measures of a long term nature, which are directed towards achieving comprehensive and dynamic improvements in the agricultural branches and in the agroindustrial complex as a whole, selecting the most effective methods for achieving high national economic and branch results and a proper combination for the branch and territorial aspects of long-range and current plans, accelerating the implementation of scientific-technical achievements and the most complete use of production capital and labor, material and financial resources, strengthening the policy of economies and eliminating losses during all stages of social production.

In view of the fact that the process of specialization and concentration based upon inter-farm cooperation and agroindustrial integration is a new stage in cooperation, a need exists for introducing into operational practice legislative documents that were not employed earlier, but which concern a number of organizational-administrative, planning-economic, legal, financial and logistical problems. During the past few years, a number of important normative documents have been adopted and methodological recommendations prepared, which to a considerable degree have stimulated the development of specialization and concentration in agricultural production, inter-farm cooperation and agroindustrial integration and they have unleashed local initiative.

The problems concerned with the mechanism for managing the new formations were included in the methodological recommendations for inter-farm cooperation and agro-industrial integration, approved in December 1979 by the Scientific and Technical Council of the USSR Ministry of Agriculture. The sections devoted to economic interrelationships were developed in these recommendations taking into account the specifics of the various forms for organizing production, with a maximum amount of attention being concentrated on those problems falling within the competence of the enterprises and associations themselves. The basic positions were stated for regulating the economic relationships of those kolkhozes and sovkhozes operating on the basis of inter-farm cooperation. A considerable amount of attention was given in the recommendations to the economic interrelationships of inter-farm enterprises (organizations) with participating farms and to cost accounting in the agroindustrial enterprises and production associations. A special section was devoted to organizing control at inter-farm and agroindustrial formations. Plans are recommended, the scientific requirements for developing rational control structures were formulated and a description was provided with regard to the competence of the organs of control in conformity with the individual types of formations. Proposals were furnished for improving the system of planning, the sale of products, logistical supply and so forth. These materials can be used when making preparations for seminar exercises on a given theme.

At the same time, it bears mentioning that in some areas use is still being made of obsolete statutes and instructions. In a number of instances the leaders and

specialists turned out to be unprepared for using the new normative documents in their practical work. Inspections have revealed that not all of the inter-farm or agroindustrial formations have these documents at their disposal. The development of those problems concerned with legal control over the processes of agroindustrial integration has fallen behind. A departmental approach is still being observed in use here. Apparently it is by no means an accident that the kolkhozes, sovkhozes and other enterprises and organizations within the USSR Ministry of Agriculture system have not embraced this process to the degree expected.

The dynamic development of the process of specialization and concentration in production, based upon inter-farm cooperation and agroindustrial integration, raises the need in a number of instances for defining more precisely and supplementing the normative documents, mainly in the portion concerned with raising the interest of all participants in cooperation in raising the efficiency of integrated production. Certain changes should be introduced in them in connection with the adoption of the decree of the CC CPSU and the USSR Council of Ministers entitled "Improvements in Planning and in the Economic Stimulation of Production and Procurements of Agricultural Products."

Correct economic interrelationships between farms participating in cooperation and inter-farm formations have not been established in a number of oblasts, krays and republics. In particular, the established system for distributing the profits obtained from inter-farm activities is not being observed. At some inter-farm enterprises, a portion of the profit and amortization deductions intended for the development of production and also a portion of the profit allocated for the repayment of bank credit are not being credited to the participating farms in their share payments. Quite often, in violation of the General Statute Governing an Inter-Farm Enterprise in Agriculture, plans for the sale of animal husbandry products to the state are assigned to inter-farm enterprises. Many farm leaders are not satisfied with the existing accounting system for livestock delivered to inter-farm enterprises. The fattening farms of Skotoprom for the RSFSR, the Kazakh SSR and the Kirghiz SSR, which operate on the basis of inter-farm cooperation, are assigned state procurement plans for many types of products and this precludes their being able to use their land areas for creating the required feed base.

Under conditions of intense division of labor, the failure to take into account the interests of partners engaged in ensuring the functioning of a dismembered technological cycle results in a breakdown in contacts -- violation of contractual discipline, failure to observe the delivery schedules for particular production elements and, in the final analysis, it lowers the effectiveness of the functioning of the entire technological chain, as well as the results and efficiency of cooperation. For example, in animal husbandry this leads to a noticeable reduction in the level of use of production capabilities created and thus to a freezing of a considerable portion of the capital investments, to a substantial increase in resource expenditures per unit of output and to failure to obtain large quantities of the products required by society.

Some combined enterprises engaged in providing services for agricultural production are raising their rates for services and this is raising considerably the cost of products at the kolkhozes and sovkhozes. Quite often the organization of inter-farm formations for various types of agricultural services is accompanied by the withdrawal from the farms of a considerable number of highly skilled specialists and this leads to definite difficulties in the production activities of the

kolkhozes and sovkhozes. In some republics, krais and oblasts, enthusiasm has been observed during the past few years in creating different types of inter-farm organizations that are not engaged in farming activity.

The organization of service inter-farm enterprises must be oriented towards raising the quality of work, reducing the cost of services and, in the final analysis, increasing the efficiency of agricultural production. This is why priority attention must be given to developing an economic instrument which will ensure taking into account, in equal measure, the interests of both the collectives of participating farms and the collectives of an inter-farm enterprise and serve as a cost accounting basis for the activities of all partners in cooperation.

Combined enterprises are created for achieving the chief goal of specialization and concentration -- a considerable increase in the production and sale to the state of agricultural products, improvements in the quality of these products, growth in labor productivity and reduced expenditures.

An inter-farm enterprise, during the course of carrying out the final production stage within the overall technological chain and in view of the imperfect instruments available for achieving an equivalent exchange within the limits for each of the stages, accumulates and sells a portion of the surplus product created by the labor of those collectives which carry out the preceding stages in the technological cycle. As a full and equal participant in cooperation for the creation of value, the result of work performed by a worker attached to an integrated formation, the collective of an inter-farm enterprise, together with the collectives of other farms participating in cooperation, appears as the owner of a portion of the net income created within the framework of this formation.

The participation of a collective of an inter-farm enterprise in the distributive relationships, with regard to net income, is one of the more important prerequisites for a more complete merging of the interests of the state, participating farms and workers attached to an inter-farm enterprise (organization). In addition, as an inter-farm enterprise takes shape and develops and as an increase takes place in its savings, used as a source for the financing of capital investments, the collective of this enterprise, together with other partners in cooperation, becomes the joint owner of the production conditions for the product produced under cooperation within the framework of the integrated formation.

As a rule, inter-farm enterprises are created taking into account the latest achievements of scientific-technical progress, with a predominance in their fixed capital structure of special purpose funds (specialized funds). The effect embodied in their structure is realized by the collective of this enterprise and savings are achieved through the use of both fixed and working capital. In this regard, the collectives of founder-farms, in addition to the collective of an inter-farm enterprise, are quite justified in expecting to receive a definite portion of the effect realized and the savings obtained.

In the process of composing the forces of the partners in cooperation (for a product produced under cooperation conditions), the combining of the man-power of an integrated formation produces a productive labor force which surpasses to a substantial degree the productive labor forces of cooperation participants, compared to their independent activities. A large portion of the effect realized

from the use of a combined work force is concentrated in an inter-farm enterprise. And here the distribution of the effect obtained must be carried out in the interests of all of the collectives of an integrated formation.

When developing a method which will ensure an equivalence of economic relationships and particularly the distribution of the total effect realized by an integrated formation, emphasis must be placed upon the following. The mentioned effect can be obtained from the sale of surplus product created during the production of certain types of products on a cooperative basis and by means of an accelerated increase in surplus product among the partners of an inter-farm formation, in those branches in which production is carried out on an independent basis. The mentioned increase is conditioned by the effect of joint production efforts for intensifying specialization among the participating farms and for accelerating the technical re-equipping of profile branches. There is every reason for applying that portion of the increase attributed to the above-mentioned factors to the total effect of the integrated formation.

When determining the degree of participation by the partners in the distribution of the effect realized by an inter-farm enterprise, one must examine the return to those collectives which carry out the technological stages preceeding the final one, of that portion of the surplus product that was created by the labor of workers attached to these specific collectives, but in view of imperfections in the price mechanism and other distributive relationships is accumulated and sold to the inter-farm enterprises.

It must be admitted that many disputable and unresolved questions still remain with regard to solving specific problems associated with the economic mechanism of inter-farm and agroindustrial formations. The decisions handed down during the 26th CPSU Congress are providing workers in the agroindustrial complex with a vast expanse for creativity, for initiative and for extensive experimental activity. The experience already accumulated testifies to the fact that in those areas where fixed attention is being given to the development of these processes, where the principles set forth in the 28 May 1976 decree of the CC CPSU are being observed in a strict manner and where a scientific creative approach is being employed, inter-farm cooperation is developing in a successful and effective manner. And conversely, if the approach employed for these processes is on the order of a short term campaign and if thorough economic validations are lacking for newly created installations, only failure and disillusionment can ensue.

In the decree of the CC CPSU and the USSR Council of Ministers entitled "Improvements in Planning and in the Economic Stimulation of Production and Procurements of Agricultural Products," measures are outlined for raising the level of planning work in agriculture. These questions were reviewed in detail in the preceeding lecture. During the course of carrying out the plan for the Eleventh Five-Year Plan, an increase must take place in the effect generated by the processes of inter-farm cooperation and agroindustrial integration on raising the efficiency of agricultural production and other branches of the agroindustrial complex. This will be promoted to a large degree by the development and introduction of efficient economic instruments that take into account the interests of each of the partners in cooperation and a mechanism which will ensure an equivalence of interrelationships for all enterprises in the agroindustrial complex.

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TILLING AND CROPPING TECHNOLOGY

SEED FARMING MANAGEMENT IMPORTANT TO HIGH QUALITY GRAIN PRODUCTION

Moscow IZVESTIYA in Russian 28 Jan 82 p 2

/Article by L. Sechnyak, doctor of agricultural sciences and director of the All-Union Breeding-Genetics Institute, Odessa: "High Quality Grain for the Grain Fields"/

/Text/ Seed work requires efficient organization, a single manager and a modern logistical base.

During the past few years, the yields being obtained out on the country's fields have been increasing, albeit slowly. There is no doubt but that a considerable portion of this increase is the result of the use of new varieties. The plant breeders have accomplished a great deal and still a great amount of work remains to be carried out. In his speech delivered before the November (1981) Plenum of the CC CPSU, Comrade L.I. Brezhnev emphasized: "The food problem, from both an economic and political standpoint, is the central problem of the entire five-year plan." An increase in grain production is the key to solving this problem. The average annual yield of grain during the Eleventh Five-Year Plan must be increased by almost 35 million tons.

This is a considerable increase and particularly when one considers that in principle very little further expansion of the grain fields is possible. Thus, reserves can be found only in connection with production intensification. And such reserves are available.

From year to year, our institute carries out competitive testing of the grain crops, including winter wheat. Checks are conducted on new varieties and also on those developed some time ago. The statistics reveal that over a period of 25 years the cropping power of winter wheat has increased by more than 23 quintals. This figure breaks down as follows: as a result of new and more productive varieties, an increase of 15.5 quintals and owing to improvements in the culture of farming -- an increase of 7.9 quintals.

There is still another indicator: over the past 10 years the average annual cropping power for winter wheat during strain testing work has remained steady at 60 quintals. Unfortunately, such a high potential cropping power is not being realized by even 50 percent in production practice owing to a number of reasons. But importance is being attached to the fact that the plant breeders have already established a reliable foundation for the future.

Certainly, the problem of increasing the return from a hectare of grain crops can be solved only by means of a complex of measures. For example, the traditional dosages of mineral fertilizers are clearly no longer adequate today. It is generally recognized that surface tilling of the soil in behalf of grain crops, following row crops and peas, is both effective and advisable. However, a shortage of heavy disk harrows precludes the possibility of employing this method on a broad scale. On the average, there is only one such harrow for each farm.

There are also other unsolved problems. I would like to discuss one of them in greater detail. During the 25th CPSU Congress, Comrade L.I. Brezhnev emphasized that well organized seed production operations can raise cropping power by at least 20 percent. Each year we sow more than 30 million tons of seed for grain, technical and other crops. This is more than one tenth of the gross yield and it is in fact the better part of this yield. And this amount is not withdrawn from the overall harvest, but rather it is specially grown and subjected to appropriate processing.

It is known that the chief components of seed production are the variety and high quality seed. The task consists of protecting the qualities of the initial stock during the production process. How is this actually accomplished? Annually, each farm engaged in producing commodity grain is provided with high quality seed for those varieties being grown on its fields. This is precisely the task set forth in the decree of the CC CPSU and the USSR Council of Ministers entitled "Measures for Further Improving Plant Breeding and Seed Production for Grain and Oil-Producing Crops and Grasses," adopted in 1976. This document calls for seed production to be raised to a new level, one which will make it possible to obtain seed having high yield qualities and which will permit the production of such seed on an industrial basis.

The decree provides for an economic mechanism which will make it possible to carry out the assigned task: scientific organizations -- institutes and experimental stations -- will produce elite seed for subsequent delivery to the Sortsemprom Association, which has a network of specialized farms. Here the seed of 1st and 2d reproductions will be grown, for subsequent delivery to the farms -- the producers of commodity grain. Such is the overall plan.

Six years have elapsed since that time and it is now possible to discuss certain results. It is gratifying to note that a considerable increase has taken place in recent years in the work rates in plant breeding operations. A process has developed which has taken on the appearance of a constantly active production line. The production of elite seed -- the most valuable stock -- has been placed on a firm footing. A union, republic and oblast Sortsemprom associations have been created. Specialized farms have been assigned to them.

Nevertheless, it is still too early to state that radical changes have taken place in the organization of seed work. Certainly, all of the designated areas are being sown and nobody is being left without seed. But what kind of seed is this and what are its sowing and yield qualities? At best, only two thirds of the initial stock being used on the farms meets the necessary requirements. Moreover, considerable areas are being sown using non-regionalized varieties. Just as in the past, many farms are carrying out their own seed production operations and the level of such work is low.

With the creation of Sortsemprom, it was expected that seed production would be concentrated in the same hands and that it would be under the direction of an individual possessing great authority and fully responsible for the task at hand. But what is the true picture? There is a Soyuzsortsemprom Association which has republic associations under its guardianship, with oblast Sortsemproms in turn subordinate to the republic associations. Here the structure is very clear and understandable. It is understandable from the standpoint of subordination relationships, obligations with regard to the carrying out of decisions and responsibilities. Subsequently however, the way is paved with unstable sand and everything is vague. Seed production farms are assigned to Sortsemprom. Emphasis is placed upon the fact that they are assigned to and not made subordinate to Sortsemprom. The nuance here is not especially noteworthy and yet it plays an important role in practical activity, since subordination is associated with the term "manager," whereas assignment connotes a certain degree of vagueness. An oblast Sortsemprom possesses no rights whatsoever. At best, it plays the role of a consultant. Moreover, its recommendations do not have to be carried out.

For example, seed preparation work is in progress, the sowing operations have commenced and the period devoted to tending the crops is at hand -- during this period the farms welcome the representatives of Sortsemprom and they listen attentively to the advice they offer. But when it comes time to harvest the crops, they wave off the representatives of Sortsemprom as though they are nothing more than bothersome flies. Thus last year the Kolkhoz imeni Posmitnyy supplied the grain receiving point with 1,000 tons of high quality seed as commodity grain. This seed was for the new Odesskaya Polukarlikovaya wheat variety, which is capable of furnishing a yield of 80-85 quintals. Or allow me to cite still another incident. The Zherebkovskaya Experimental Station, following the harvest, did not ship one kilogram of seed to Sortsemprom. Four hundred tons of splendid seed were sold as commodity grain.

Let us try to comprehend the essence of this matter. Let us assume that a kolkhoz sold 1,000 tons of seed as commodity grain. As a result, it lost an 80 percent monetary bonus and it deprived its neighbor of the opportunity of obtaining a higher yield. And what benefit was derived from such action? It was simply able to report fulfillment of its grain procurement plan ahead of schedule.

Thus, Sortsemproms have been created. To be more exact, a superstructure exists which, owing to its isolation from the production base, is unable to carry out efficiently the tasks assigned to the branch. As you can see, the assignment of farms to Sortsemprom is somewhat formal in nature. And the attachment of the term "specialized" to their definition also represents a departure from reality, since the Sortsemproms, owing to their limited rights, are unable to carry out specialization which takes into account the specifics of seed production work. They cannot interfere in crop rotation plans, introduce structural changes or impose requirements with regard to creating the required production-technical base. There have been many instances of a rayon assigning tasks to sovkhozes which are in conflict with their specializations.

The number of farms assigned to each oblast Sortsemprom is numbered in dozens and at times in hundreds. Such a dispersion clearly leads to haphazard and unsystematic operations. Persistent voices are presently being heard expressing a preference for emphasis to be placed upon quality rather than quantity, for the number of assigned farms to be reduced and for these farms to be converted into truly specialized ones.

Seed production work is specific in nature. It has its own distinctly different technology. Unique equipment is required: sowing machines and combines with compressor units, assemblies and at times entire grain processing plants. Attempts are being made to solve this problem and yet it can be bluntly stated that these attempts are timid and not always carefully thought out.

The planning organizations, obviously with the consent of USSR Sortsemprom, are proposing the use of costly -- estimated cost of up to 2 million rubles -- plants having multi-story arrangements for their grain cleaning machines. The high cost and excessive complexity of these installations, on the one hand, are prolonging construction operations by a decade and, on the other, they are increasing sharply the production costs for the seed as a result of tremendous amortization deductions. Meanwhile, a plan has been proposed and is being introduced into operations in Odesskaya Oblast for a light-duty flow line -- a seed cleaning complex the cost of which is only approximately 50,000 rubles. It consists of individual technological lines which can be built gradually. Such lines have been in operation for several years at the Put' K Kommunizmu Elitsemkhoz /elite seed farm/ in Kostovskiy Rayon. They have fully proven their worth. Several seminars were held here. Adequate documentation was furnished for this purpose. Nevertheless, the program adopted called for the construction of costly plants. Yes and the disposition of these plants is not always carefully thought out. For example, the construction of five plants is nearing completion in Kirovogradskaya Oblast. It is presently clear that these plants will not have full workloads. And yet in other areas there is no place for the seed to be cleaned and no equipment to clean it with.

In some areas large operations are being established and in others nobody is taking note of the fact that the situation with regard to the construction of a number of important seed production installations is far from satisfactory. In the Ukraine, where the situation is somewhat better than in other republics, the plan for carrying out construction-installation work at these installations was fulfilled by only 61 percent in 1981. The organizations of Ukrmezhkolkhozstroy failed to use 10.4 million rubles. Of 36 underway projects planned, only 22 were placed in operation. In particular, this problem is being addressed in a very unsatisfactory manner in Dnepropetrovskaya, Kiyevskaya, Poltavskaya, Ternopol'skaya and Khar'kovskaya Oblasts. Mention must necessarily be made of the fact that USSR Goskomsel'khoztekhnika is supplying low quality equipment for the seed cleaning installations under construction.

I would also like to discuss some problems requiring action on the part of USSR Sortsemprom. Let us take alfalfa seed. There is a tremendous demand for such seed. Even if it is possible to obtain such seed, the price is incredible. Each year our institute supplies the Odessa Sortsemprom with a considerable quantity of elite alfalfa seed. Thereafter it is sent to the oblast station for the production of perennial grass seed. The latter in turn multiplies the seed of high reproductions and makes it available to specialized seed production farms. In accordance with the existing system, the seed grown on these farms must be returned to the station where it is subsequently added to the all-union, republic and oblast funds. And once again the system fails to operate properly. Years pass and no perceptible increase in the seed is noted. Only 120 tons of this seed were procured this year. At the same time, we are aware that large quantities of seed remain on the farms, seed which is being sold on a questionable basis.

Serious concern must be displayed for the production of sunflower seed. At the present time, hybrids are replacing the varieties usually employed by the kolkhozes

and sovkhozes. In particular, our institute has made available for production operations the Rassvet and Odesskiy-91 hybrids. Other more improved hybrids are nearing the production stage. Their advantages over variety-populations include greater cropping power and uniformity in terms of ripening periods and plant height, which serves to lower losses during mechanized harvest operations. The hybrids also possess greater resistance against diseases.

The existing system for producing seed for sunflower variety-populations is not suitable for obtaining hybrid seed for this crop. The problem with regard to redistribution of the areas and reorganization of the plans for cultivating oil-bearing seed must be solved in a knowledgeable manner. A requirement exists for developing measures for issuing material and moral incentives to those farms engaged in the production of hybrid seed. All of these problems must be solved by USSR Sortsemprom, assisted by interested organizations.

The seed production tasks are becoming more complicated with each passing year. And efficient order is required in this important work. The problems which are arising must be solved in an efficient and fundamental manner. Who will solve them? If it is to be USSR Sortsemprom, then it must be granted the appropriate rights. Seed production must be controlled by reliable hands; it requires a manager who bears complete responsibility for the task assigned. Meanwhile, it prefers to assign the production of hybrid seed to those institutes engaged in plant breeding and the production of parental hybrid-forms.

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